

GEOGRAPHIC SCHOOL BULLETINS

OF THE NATIONAL GEOGRAPHIC SOCIETY, WASHINGTON 6, D.C.

OCTOBER 4, 1954

VOL. XXXIII, NO. 1

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It's Fair Time in America

Honduras Goes to the Polls

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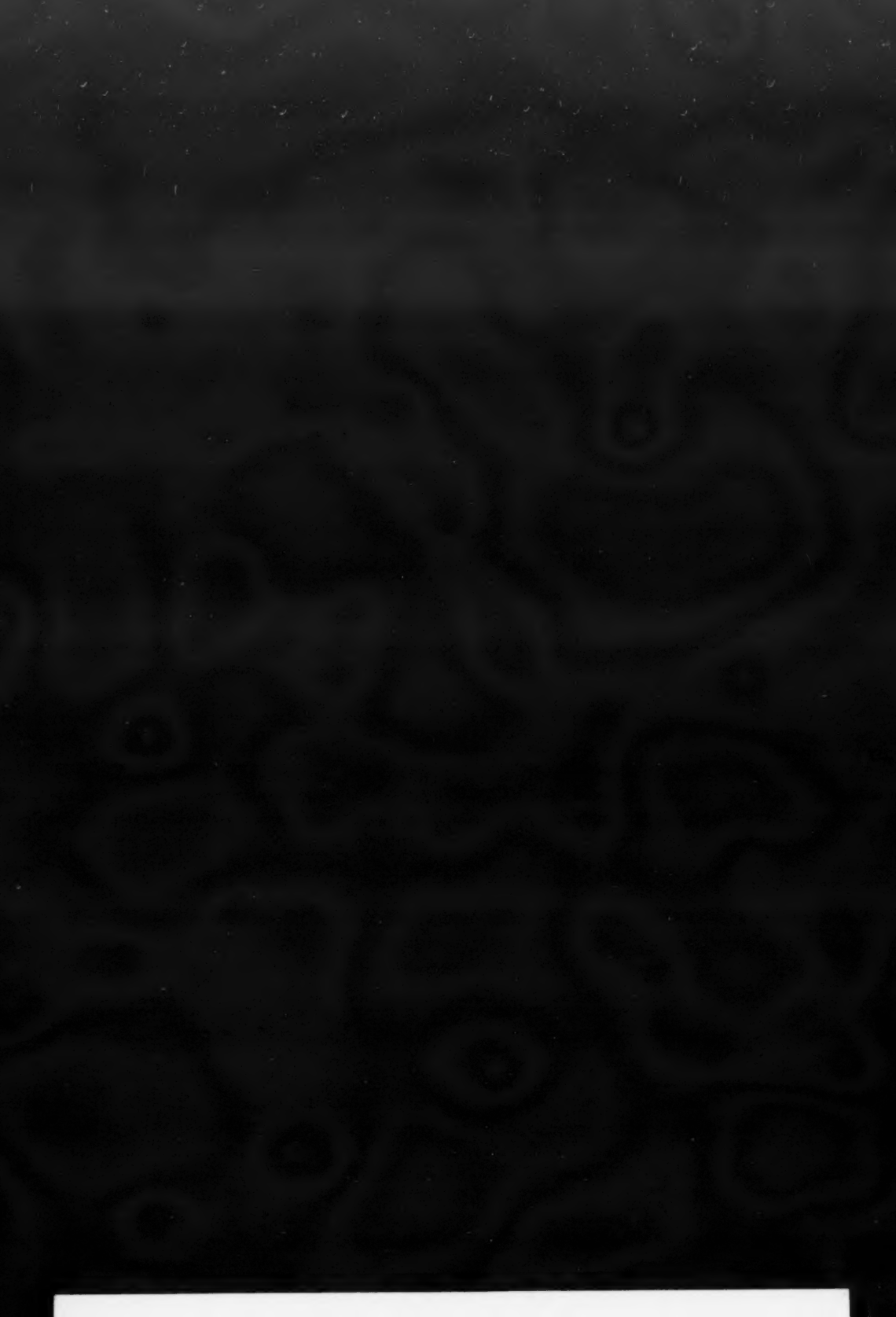
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clogged the broad avenues. Mud huts erupted on the surrounding gray-brown plain.

Abdul scratched out a living transporting sacks of wheat and cotton bales. Rupees and annas came slowly. But Abdul enjoyed being at the center of things. Daily he saw new Moslem shopkeepers replacing Hindi and English signs with official Urdu. Brahman temples closed their doors while rattan mats walled temporary mosques for Allah's faithful. Refugees waving green and white flags debarked from in-streaming trains, crying "*Pakistan Zindabad!*"—"Long Live Pakistan!"

Abdul earned extra coins carting baggage of departing Hindus to Bombay-bound steamers. Told that with these Indian engineers, doctors, bankers, teachers went his country's skills, he said, "We Pakistanis will do for ourselves."

Industry spread from the hearths of humble cottages. A refugee widow, Abdul's neighbor, sewed for her bread with one of 3,000 machines distributed on "easy terms" by the government. Abdul's wife discarded the veil and joined chains of women in bright-flowered, flowing robes who labored to erect worker's houses and district schools. She carried moist concrete in a pan on her head and helped build a textile factory. Its towering smokestack soon broke the monotony of white-box suburbs trailing off to a dusty horizon.

Life at the Crossroads—No Taj Mahal graces Karachi; no Kashmir garden ennobles it. Jerry-built homes lean against stolid British commercial buildings. Unruly shops jostle balconied modern apartments. Sea breezes cool but also bring nostril-puckering reminders of tidal mud flats and mangrove swamps.

Streets pulse with life. Abdul stops to watch turbaned Baluchistanis haggle over a tray of green and orange sweets. Barefoot children swirl about carts heaped with paper flowers, balloons, hairnets, and fluttering cage birds. An old woman crisps locusts over charcoal next to a fortune-teller's stand. Flies swarm as a pajama-clad hawkker offers a clotted mass of dates.

Behind Abdul's halted cart automobiles and trucks honk impatiently. An open-sided streetcar clangs by. Rival busses careen down the street in a race for passengers.

A ship has docked. Grotesque legs flaying the air, Abdul's camel gallops for the harbor. A freighter—one of Pakistan's fast-growing fleet—already has clawlike cranes groping in its holds. Abdul and other drivers haul off crates of machinery, textiles, steel beams, and drums of oil. They leave the ship to be loaded with its outbound cargo—wheat, cotton, hides, and skins.

Roadblocks to Progress—On Karachi's five miles of mechanized piers men still often push railroad cars. Abdul scarcely notices, for what Pakistani does not know that manpower is cheaper than imported fuels? And that water is just as scarce? "There's not

DAVID PESKIN





NATIONAL GEOGRAPHIC PHOTOGRAPHER J. BAYLOR ROBERTS

Karachi Harbor Booms with Commerce—Modern machinery crams the piers. Overhead sleek planes drone to and from Karachi's airport, the Orient's largest and busiest. But fuel is expensive and labor cheap, so men push switching car at lower right.

Karachi's Industry Gets New Lease on Life

Abdul Hussein, urging his laden camel along the noisy, sun-baked streets of Karachi, may not know of Sui, a desert town 300 miles north. But unlimited reserves of natural gas recently discovered at Sui soon may change his way of life. When the cheap piped fuel reaches Pakistan's capital, it may complete the burgeoning city's transition from 18th-century fishing village to modern industrial center.

Seven years ago Abdul and his family fled with the Moslem multitudes from India to Pakistan, their newly created nation. Karachi, near the mouth of the Indus River, drew them like a magnet.

Mud Huts and Sewing Machines—Many another refugee and dissatisfied tiller of sand-blasted acres had the same idea. The new capital reeled under the human flood that engulfed it. The city doubled, trebled, quadrupled in size. It burst at the seams as 300,000 became 1,200,000 in five short years. Merchants slept atop their goods. Stands and pushcarts

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The Mississippi: It Keeps Rolling Along



WEBB FROM STANDARD OIL CO.

As the old legend goes, sometime between the Winter of the Blue Snow and the Spring That the Rain Came up from China, Paul Bunyan dug the channel for the Mississippi River. Throwing townships of earth to either side, he piled up the Appalachians and the Rockies. Needing flat land for corn, he hitched Babe the Blue Ox to Kansas and turned it upside down.

The Mississippi, giant among American rivers, has inspired king-size folklore. Its history, too, is writ in epic stanzas. In early days explorers and voyageurs plied its endless waters in dancing canoes. Story-swapping lumberjacks felled trees among its dark pineries. Lonely mountain men trapped beaver along far-off tributaries. And doughty rivermen rafted, keelboated, steamboated around the bends.

Today's Heroes Are Legion—Now the days of Paul Bunyan, Mike Fink, John Henry, and real-life De Soto, La Salle, Lewis and Clark, and Mark Twain are gone. The river remembers, but it keeps rolling along. Today's heroes are towboat captains, Iowa farmers, Minnesota millers, Pittsburgh steel men, Illinois coal miners, St. Louis factory managers, New Orleans crane operators, and the entire peaceful army that makes the Mississippi basin one of the world's most productive and unified geographic areas.

Sixty million people call the basin home. Nearly one half the United States lies within it. Two hundred and fifty tributaries help drain the vast area stretching from the snow-specked crags of Yellowstone and Glacier to the soft ridges of Pennsylvania, from Raton Pass to Cumberland

enough fuel in town to start a fire or enough water to put one out," residents quip.

Sandwiched between parched desert and the Arabian Sea, the growing city outraced its fresh-water supply. Human throats and industrial plants suffered. Then a Belgian hydrologist struck water near by—enough to fill drinking cups and factory water mains until a new dam spans the mighty Indus. In five years this dam should supply an industrialized Karachi of 3,000,000.

With practically no coal, oil, or iron, experts gloomily predicted that Pakistan could never develop as an industrial nation. This is why Sui's natural gas reserves are so important. The new power resource promises a mighty lift in the country's economy and helps fulfill the prophecy made long ago by Pakistan's founder, Mohammed Ali Jinnah: "No power on earth can prevent Pakistan."

References—Karachi is shown on the National Geographic Society's map of Southwest Asia. Write the Society, Washington 6, D. C., for a price list of maps.

See "Troubled Waters East of Suez," *National Geographic Magazine*, April, 1954; "Pakistan, New Nation in an Old Land," Nov., 1952; *GEOGRAPHIC SCHOOL BULLETINS*, March 8, 1954, "History Still Marches Through Khyber Pass"; March 30, 1953, "Pakistan Sets the Experts Wondering." (*School and library discount price for Magazine issues a year old or less, 50¢; through 1946, 65¢. Send for price list of earlier issues.*)

Announcing a New Series: Rivers of the World

Since time began, flowing streams have been venerated as bearers of the gift of water. Rivers bring desert to life; their waters deposit on the valley-dweller's acres the fertility of faraway ridges. Seasonal rise and fall measure the goodness of life along the banks.

Civilization moved from toddling clothes to long pants in the valleys of the Nile, Tigris and Euphrates, Indus, and Hwang. Law and government grew partly out of the need for regulating and apportioning the life-giving waters. When the building of irrigation works required community effort, family groups became nations. Religion drew rich symbolism from the eternal flow of water.

The hymn singer bids us "gather at the river" for baptism while the Hindu cleanses his sins in the silt-heavy Ganges. "Alph, the sacred river" runs through man's consciousness in all ages, and the Jordan flows throughout Christendom. But rivers are not always kind. Floods mixed fear in primitive man's worship, and the prayer "River stay 'way from my door" still is voiced.

From Greek philosopher to barefoot fisherboy, thinkers have ever been intrigued by the paradox of the river: though always moving, it is constantly there. Its movement has inspired and directed many of man's discoveries.

In America rivers have been the natural highways for exploration and settlement. The United States grew up on them—first the Atlantic coastal streams, later the Mississippi system, and finally the Pacific-flowing arteries. The importance of the Mississippi in America's growth prompted the editors of the Geographic School Bulletins to make it the first of a new series: Rivers of the World. Subsequent units will follow intermittently.

The river's tremendous flow continually forces changes in its course. It scours gentle curves into horseshoe bends, depositing sediment on the inside of the bend. Loops lengthen into goosenecks. Finally, with shifts of current, the river cuts through the land between loops and leaves oxbow lakes stranded inland. Such shifts, made since boundaries were drawn, have put small bits of east-bank states west of the river, and vice versa.

Early steamboat captains dated events by such phrases as "When Missouri was on the Illinois side," or "When Louisiana was up the river farther." In 150 years the Mississippi has restlessly changed geography so much that the site where Lewis and Clark camped at Wood River, Illinois, before taking off for the Pacific, now lies under water off the Missouri shore. Floods and erosion have erased several towns.

Man Against the River—Since New Orleans was founded in 1718, man has struggled to control the Mississippi. Early settlers built levees—walls of brush and earth—to raise and strengthen the banks. Some 2,000 miles of these now parallel the shores from New Orleans to beyond Cairo, Illinois, where hills rise and the "Upper River" begins.

When swelled by torrential rains, the Mississippi smashes levees and rampages over the land. Through the roaring flood swirl barns, houses, bridges, and trees. Horses, cows, pigs, and chickens from the farms, deer, rabbits, and foxes from the forests sink or swim in the raging torrent. Rescue boats chug among treetops to save people marooned on roofs.

But the river's might is yielding to man's restraining hand. The Corps of Engineers of the United States Army, guardian of the river since 1879 when Congress created the Mississippi River Commission, has much to say about where the river flows and when, in spite of Mark Twain's opinion, expressed more than 70 years ago, that "10,000 river commissions . . . cannot tame that lawless stream."

Now revetments—mats of concrete laced with steel—reinforce caving banks; floodways, locks, and dams discipline the river. Beacons mark its channel, turning the river into "a sort of 2,000-mile torchlight procession."



Sacrifice Farm to Save City—High waters pour angrily through a break dynamited in the levee to lower flood crest menacing the city of Cairo, Illinois.

The Mississippi has changed its course drastically at least four times in the past 2,000 years, in addition to innumerable smaller shifts caused by floods.

WIDE WORLD



Gap, from Minnesota's 10,000 lakes to Louisiana's moss-draped bayous. All or parts of 31 states and two Canadian provinces lie in the basin.

Old Man River makes ports of cities as far inland as Minneapolis and St. Paul—1,820 miles from the sea. With its navigable tributaries and connections to the Great Lakes and St. Lawrence River, the Mississippi is part of the world's longest inland-waterway system. Snub-nosed towboats push sets of flat barges carrying the equivalent of the load of 400 to 600 freight cars. Bulky cargoes of steel, iron, coal, and lumber go by water, leaving space on the swifter railroads for perishable goods. In 1953 nearly 100,000,000 tons of cargo traveled the river. Today's load is twice what sternwheelers carried a century ago, in the heyday of "steamboatin'."

The Mississippi with its giant right arm, the Missouri, makes a continuous watery highway 3,872 miles long. Only the Nile and the Amazon exceed this.

An Acre in Every Tumblerful—Past New Orleans, 100 miles above the mouth, daily surges enough water to supply 2,000 gallons to every inhabitant of the United States. The river also carries enough earth each day to fill a freight train 150 miles long. Much of this mud, gravel, and sand reaches the delta, extending it into the Gulf of Mexico some 250 feet a year. Mark Twain, the river's star historian, once said "every tumblerful holds an acre of land in solution." An acquaintance told him he could drink it if he "had some other water to wash it with."

It's Fair Time in America

Come wind, rain, or sunshine, it's fair weather for the American farmer once the harvest is in. Peaches, tomatoes, all kinds of colorful fruits and vegetables are packed; horses, cattle, and hogs (illustration, cover) given a final burnish, and the whole family is off to the fair.

Father displays his Hereford or his Aberdeen-Angus. His towering cornstalks and giant pumpkins decorate a stand where mother's pastries, jams, and pickles contest for gay ribbons or prizes. Jack proudly presents a cherished heifer, Jill a party dress. Both try the Ferris wheel and the fun shows while their parents watch the trotting races.

Fairs Fall from August to Frost—September's spotlight swings from Iowa and California, both of whose State fairs celebrate 100th birthdays this year, to West Springfield, Massachusetts. Here five New England States stage the Eastern States Exposition, largest in the east. Agriculture and industry exhibits range from potatoes to prefabricated houses.

Country and city folk swarm in gleaming automobiles, even flivver planes, to see draft oxen—still used on stony New England hillsides—strain to drag twice their weight. Belgian or Percheron horses snort restlessly, jingling heavy harness chains. The command, "Eeeaaah! . . . Dig!" sets a lather-flecked pair lunging against their collars, hoofs churning the ground.

Colossal Is the Byword—In the south, where summer lingers, most fairs fall in October. Dallas's 16-day Texas State Fair tops them all. In 1953, 2,382,712 admissions were clicked at the gate. One day alone brought 100,000 4-H boys and girls from all over the nation's largest State. Jostling crowds surge through huge exhibit halls, roller-coast on the midway, thrill to daredevil feats, crowd the mammoth Cotton Bowl for football.

Since Colonial days, fairs have enlivened the American scene. Ancient Romans honored Ceres, goddess of agriculture. From their word for "feast day"—*feria*—comes the name "fair."

References—"America Goes to the Fair," *National Geographic Magazine*, Sept., 1954; "Pennsylvania Dutch Folk Festival," Oct., 1952; "4-H Boys and Girls Grow More Food," Nov., 1948; refer to *Fairs and Festivals in Cumulative Index to the National Geographic Magazine*; also, *GEOGRAPHIC SCHOOL BULLETINS*, Oct. 6, 1952, "Fairs and Festivals Fill Autumn's Calendar."

Iowa's Finest Loaf—Experts all, they share in the pleasure of the champion whose prize bread has won her a new stove.

THE NEW YORK TIMES



In the Commission's early days many felt it would be easier to build a whole new river, Paul Bunyan-like.

A serious problem is the Mississippi's inclination to seek a shorter route to the Gulf. Each year a greater volume leaves the main stream above New Orleans and joins the Atchafalaya which flows into the Gulf about 100 miles west of the Mississippi's present exit. The Engineers fear that if not prevented from thus straying, the Father of Waters will in another decade make a moss-draped backwater of New Orleans, now the nation's number-two port.

Long before the white man came, the Mississippi belonged to the Mound Builders and nomadic Indians. Hernando de Soto, a gold-hungry Spaniard, is credited with discovering it in 1541. Harried by Indians during three years of wandering among uncharted swamps and forests, de Soto finally died of fever. His companions buried him at midnight in the great river's murky waters to keep the redskins from learning he was not a white god.

Later came Frenchmen looking for furs and Englishmen seeking homes. But it was America's destiny to possess the Mississippi basin. At the close of the Revolution, the river was set as the western boundary of the new republic, except that New Orleans remained in foreign hands. This was intolerable to the frontiersmen, who regarded the Mississippi as "The Hudson, the Delaware, the Potomac, all the rivers of the Atlantic States formed into one." It was like having a keg of cider with no outlet.

"The world's greatest real estate transaction" solved the situation. Napoleon sold not only New Orleans to the United States, but also the entire Louisiana Territory—all land between the Mississippi and the Rockies. Thus stepping across the river, the young nation doubled its area and changed from Atlantic community to continental power.

River Lives in Art—Mississippi history lives. *Naughty Marietta* peoples stage and screen with fabulous characters of early New Orleans. The actors, gamblers, cotton pickers, and rivermen of *Show Boat* portray the golden age of the packet boat. Mark Twain's *Life on the Mississippi* and his immortal Tom Sawyer and Huckleberry Finn mirror river life of a century ago. The author took his famous pen name from the riverman's cry indicating depth of water.

Steamboat races quickened the valley's pulse. Crowds cheered boats stripped down for the contests. Smoke billowed from funnels, paddle-wheels revolved dizzily, boilers "strained every rivet" as red-hot engines panted and chugged up river.

River traffic reached its peak in mid-19th century and began to shrink when the railroads pushed westward. By the turn of the century stern-wheelers were rotting at wharves in ghostly rows, and pilots no longer drew their once-fabulous \$500 a month. Then came the world wars to overburden the railways and revive river commerce.

References—The Mississippi River system is shown on the Society's map of The United States. See "New Orleans: Jambalaya on the Levee" in *The National Geographic Magazine*, Feb., 1953; "Following the Trail of Lewis and Clark," June, 1953; "History Repeats in Old Natchez," Feb., 1949; "Down Mark Twain's River on a Raft," April, 1948; "Louisiana Trades with the World," Dec., 1947; "Men Against the Rivers," June, 1937; "The Great Mississippi Flood of 1927," Sept., 1927; and, in the GEOGRAPHIC SCHOOL BULLETINS, Oct. 12, 1953, "Towboat Tops Steamer in Mississippi Traffic."

Sockeye Bonanza Strikes the Northwest

The Fraser sockeye are running! Salmon pour into fishing boats. Tenders laden to the gunwales chug in with the biggest take in 41 years. The silver and red flood piles high in the canneries. Machinery clatters, conveyor belts overflow as the harvest streams to the butchers, on to the slimmers, the packers. The tempo recalls the Klondike fever that struck Seattle when sourdoughs brought back bags of gold in '97.

Fishermen, fatigue showing in smile-wreathed faces, hurry the unloading with net-chafed hands. Each minute away from the fishing grounds costs money. The sockeye, running big at a seven-pound average, put \$2 each in the fisherman's kitty. One boat netted \$3,000 in a single haul. Some tally \$20,000 for a day's catch.

3,000 Americans Mine the Sea—We board a Diesel-engined fisherboat churning through Washington's island-studded Puget Sound, past the Strait of Juan de Fuca, to San Juan Archipelago. Nearly 1,000 American boats arc through 120 miles of salmon-rich waters, clustered in company fleets of a hundred or more, with busy tenders shuttling between fishing banks and packing plants. Canada's fleets work Georgia Strait, heading toward a possible record \$40,000,000 catch.

Green-black water froths white as gillnetters winch in their nets. Corked at top, leaded at bottom, the upright nylon or linen gillnets drift with the boat, enmeshing swarming salmon behind the gills.

Purse seiners encircle their fish. A small boat put over the side lays a seine, often a third of a mile long, about a school of fish. Hauling in on a purse line that threads the net bottom tightens the seine into a sack. The thrashing salmon are then scooped into the vessel's hold.

Ashore, twenty Washington canneries work day and night to process the bumper crop. In Bellingham, housewives were drafted; in Anacortes,

children excused from school to help. The sockeye or red salmon, leading money-maker of Northwest fisheries, supplies the deep-red meat for the choicest salads. The king-size Chinook, scrappy favorite of sportsmen, tops the scales from an average 22 pounds up to a record 125. Its tasty flesh separates into soft, oil-rich chunks, color-ranging

Gang Knives Cut Salmon into Can-size Chunks—Modern factories whisk ocean-fresh salmon through cleaning, showering, cutting, packing, grading, sealing into huge pressure cookers for a 1½ hour stopover at 245°. Emerging from the cooler tank, cans are labeled and cased, ready for the nation's dinner tables.

PHOTO ART



Honduras Goes to the Polls

On October 10, Hondurans flock to the polls to cast ballots in their national elections, held every six years. The May-to-November wet season finds electioneering ardor undampened as parties go after the vote in the banana republic's hottest campaign in years.

Campaign issues raise political temperatures throughout Honduras's 43,277 square miles (slightly larger than Tennessee), from jungled lowlands fronting the Caribbean to its back door on the Pacific.

Columbus Anchored Deep—Columbus discovered the land on his fourth and last voyage to the New World. Because deep coastal waters made it difficult to anchor, he called the country *Honduras*—Spanish for depths. Who knows what he might have named it could he have flown over the many-rivered land and seen its crazy pattern of mountains rising to 9,400 feet, with central valley areas ranging from 3,000 to 4,500 feet.

In these altitude-tempered valleys live most of the country's 1,513,000 people. Primarily of Spanish-Indian descent, they are scattered in small towns and villages or work lonely cattle ranches, coffee plantations, or small individual holdings.

The Honduran peasant lives in a simple hut roofed with tile or thatch. He gardens rather than farms, concentrating on beans and corn, mainstays of the national diet. He also raises plantains, sweet potatoes, rice, wheat, and sugar cane. His wife grinds corn to flour on a stone *metate* to make tortillas, baked in a beehive oven outdoors. The family delights in the many Church feast days, when social life quickens in this land of the siesta.

Practicing primitive farming methods of their Mayan ancestors, the Indians around Copán, in western Honduras, hack patches from the jungle and plant corn. When soil exhaustion and returning jungle choke out the crops, they clear new fields. In this region stone monoliths and temple mounds, long swallowed by jungle, tell of the vanished civilization of the Maya which flourished here from the first century B. C. to the sixth A. D.

How Hondurans Earn Their Lempiras—Men range the forests for isolated mahogany trees; mines yield rich revenues of gold and silver; exports of coffee beans and hides bring many a *lempira* (U. S. 50¢). But Honduras draws its main sustenance from the large banana plantations that sprawl over the humid north coastal plain. Here mestizos work side by side with Jamaican Negroes to produce the country's number-one export crop. Refrigerated ships of the United Fruit and Standard Fruit companies load at Caribbean ports to bring this crop to the United States, where 80 years ago bananas were a curiosity. Coconuts and abacá fiber, used for ropemaking, are coastal cash crops of increasing importance.

Honduran railroads serve only the banana plantation areas. Elsewhere men canoe the rivers or tread footpaths; oxcarts groan along on solid wooden wheels. Grass grows under the feet of slow-moving donkeys, while occasional paved roads bring automobiles honking by. Airplanes whistle overhead, linking the 99,948 residents of Tegucigalpa, the inland capital, with the outside world. Television is expected soon.

References—Honduras appears on the Society's map of Mexico and Central America. Also see "Honduran Highlights," *National Geographic Magazine*, March, 1942.

from white to red. The smaller coho or silver salmon, the pink, and the chum or keta also are popular.

The new \$2,000,000 fishways around slide-choked Hell's Gate Canyon get credit for this year's return of salmon to the Fraser River in British Columbia. In 1913 railroad building toppled tons of rock into the rapids, blocking the salmon who died without spawning. Salmon never feed once they leave salt water.

Homecoming Salmon Now Make the Grade—Finally, 1946 saw nature's rhythm restored. Fish swarmed back in ever-increasing numbers to leap up fish ladders on their way to ancestral lakes and streams. There they spawn and die, their life cycle complete. Months pass. Fingerlings shimmer downstream to the Pacific, to return in four years hefty candidates for fishermen's nets. International control guards the homecoming hordes from extermination. Fishing halts periodically to let half the run reach spawning streams.

Gone are the salmon's good old days. Once they could range hundreds of miles up Northwest rivers, molested only by the paw-swipe of the black bear. Then Indians came to build fallside stagings. From these they snatched salmon with long-handled dipnets—as Indians still do at Celilo Falls on the Columbia by treaty right. Early white settlers salted the abundant salmon to ship around Cape Horn to eastern cities.

Then progress brought logging dams, huge hydroelectric projects to thwart the migrating salmon. Irrigation canals detoured him to an untimely end. Factory wastes poisoned his waters.

Only by constant care can Northwest fisheries ensure future harvests like the spectacular one this autumn.

References—"From Sagebrush to Roses on the Columbia," *National Geographic Magazine*, Nov., 1952; "Fishing in Pacific Coast Streams," Feb., 1939; *GEOGRAPHIC SCHOOL BULLETINS*, Jan. 25, 1954, "Science Searches for New Fishing Grounds."

Salmon Cascade from Trap to Tender—Outlawed in Puget Sound, traps tally 40 per cent of the Alaskan catch. Built of logs, on piles or floating, a trap is a maze of nets. A lead line shunts fish through a series of funnel-shaped openings into the spiller. From this they are brailled, or lifted, into cannery tenders, sometimes into the black launches of fish pirates, who abound in Alaskan waters. Huts on traps house watchmen. To stop collusion with pirates, two men patrol each trap—one to watch the other!

ASAHIEL CURTIS



